

Attachment 2

CHANG DECLARATION 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of

CHANG, CHIN-JUI et al.

Serial No.: 09/572,754

Filed: May 16, 2000

SOUND DEADENING AND STRUCTURAL
REINFORCEMENT COMPOSITIONS AND
METHODS OF USING THE SAME

Docket No.: 26845-B

Group Art Unit No.: 1772

Examiner: M. Patterson

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

DECLARATION 2

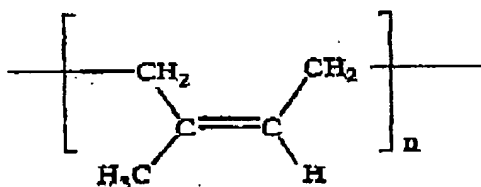
I, CHIN-JUI CHANG, declare and state as follows:

1. I am one of the inventors named on the above-referenced patent application. I am a group leader in the Structural Materials section of Sika Corporation.

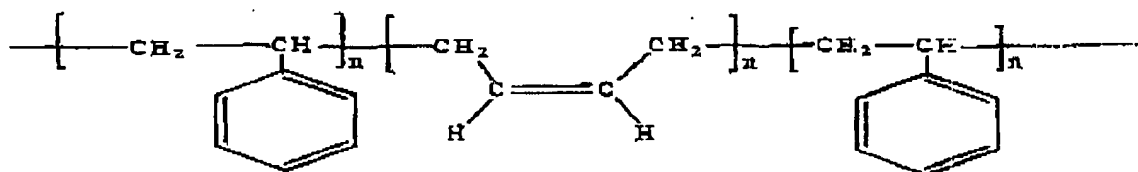
2. Polyisoprene and SBS Block copolymer are fundamentally dissimilar because polyisoprene is a diene rubber that is a vulcanizable elastomer while SBS Block copolymer is a thermoplastic elastomer. Vulcanizable elastomers must be crosslinked by heating to provide strength and toughness, and are soft at room temperature. SBS Block copolymer can be handled like a thermoplastic elastomer and provides strength and toughness at room temperature without vulcanization. Upon cooling, SBS Block copolymer becomes hard and plastic. The structures of polyisoprene and SBS Block copolymer are as follows:

Serial No. 09/572,754

Docket No. 26845-B



Polyisoprene



SBS Block copolymer

Serial No. 09/572,754Docket No. 26845-B

3. As is evident from these structures, SBS Block copolymer and polyisoprene are structurally very dissimilar. The structural characteristics of the SBS Block copolymer and polyisoprene clearly impart functional properties that are not consonant with one another. This is critical to an appreciation of why polyisoprene and SBS Block copolymer are not interchangeable for use in the present application. SBS Block copolymer is not covalently bonded, while polyisoprene is covalently bonded. Polyisoprene must undergo a chemical process of crosslinking called vulcanization which results in a homopolymer having covalent bonds. The polymer process for SBS Block copolymer is reversible unlike that for vulcanized polyisoprene. In contrast, SBS Block copolymer is unique because it is not chemically crosslinked. Therefore, it is more easily processed and can be shaped more readily. By virtue of being a thermoplastic elastomer, SBS Block copolymer has two distinct phases that cause it to become fluid and rubbery at higher temperatures and hard and plastic at lower temperatures, making SBS Block copolymer ideal for use in structural foams for reinforcing hollow bodies. Polyisoprene lacks such characteristics and properties.


4. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that wilful, false statements and the like are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and such wilful false statements may jeopardize the validity of any patents issued from the patent application.

Serial No. 09/572,754

Docket No. 26845-B

Any additional fee which is due in connection with this Declaration should be applied against

Deposit Account No. 19-0522.


Chin-Jui Chang

Date: 10-16-2002